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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/870,279

05/30/2001

Kazuyuki Sakamaki

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7301

7590

06/25/2004

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EXAMINER

MCANULTY, TIMOTHY P

ART UNIT

PAPER NUMBER

3682

DATE MAILED: 06/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/870,279	<b>Applicant(s)</b> SAKAMAKI, KAZUYUKI	
	<b>Examiner</b> Timothy P McAnulty	<b>Art Unit</b> 3682	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 May 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 1 and 3-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 10-278124 in view of Williams et al.

JP 10-278124 discloses in figures 1a and 1b, a plastic gear having teeth 3 on an annular portion thereof; a shaft supporting member 2; a first annular rib 5 located outside of an intermediate point located between a rotational center of said gear and an outermost circumference of said gear; a plurality of radially extending diametrical ribs 7 extending from an innermost side of said first annular rib toward said shaft supporting member; and a first web portion 4 located between said first annular rib and said teeth. JP 10-278124 does not disclose said web portion being corrugated. However, Williams teaches in figures 1 and 3 and in lines 23-25 of column 2, a plastic gear having a corrugated web portion, wherein said web portion may comprise curvilinear, two-sided, or three-sided corrugations. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the apparatus of JP 10-278124 in view of Williams et al. to form the first web portion with corrugations to increase the axial strength of the gear without significantly increasing the required material of construction.

Regarding claim 6, the reference combination previously set forth discloses the basic apparatus except for the thickness of said first web portion being the same as a thickness of a second web portion located between said shaft supporting member and second annular ring 6.

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However, it would have been obvious as a matter of engineering design choice to make the thickness of said first web portion the same as the thickness of said second web portion, because such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955).

3. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 10-278124 in view of Williams et al. as applied to claims 1 and 3 above, and further in view of Mlenjnek et al.

The reference combination previously set forth discloses the basic apparatus but does not disclose said plastic gear used to drive an image-forming device. However, Mlenjnek et al. teaches in figure 4 a laser printer drive train having drive means 31,32 which drive a photoconductor drum 37 through a plastic gear 18. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the reference combination previously set forth in view of the teachings of Mlenjnek et al. to utilize a corrugated plastic gear in a drive train of photoconductor apparatus to eliminate vibration transmitted to said drum and thus improve print quality.

#### ***Response to Arguments***

4. Applicant's arguments filed 07 May 2004 have been fully considered but they are not persuasive. The first rib of JP10-278124 is inherently outside of an intermediate point located between the rotational center of said gear and the outermost circumference of said gear. The location of said intermediate point is not limited. Construing the claim language in its broadest reasonable interpretation the intermediate point can be anyone of an infinite number of locations between said rotational center and said outermost circumference; many of which are located inside said first rib.

*Conclusion*

5. This is a request for continued examination (RCE) of applicant's earlier Application No. 09/870,279. All claims are drawn to the same invention claimed in the earlier application and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the earlier application. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action in this case. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no, however, event will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy P McAnulty whose telephone number is 703.308.8684. The examiner can normally be reached on Monday-Friday (7:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bucci can be reached on 703.308.3668. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

tpm 

  
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